

## CLAIMS

Sub B4

1. Nucleic material of the retroviral genomic type, in isolated or purified state, at least partially functional or nonfunctional, whose genome comprises a reference nucleotide sequence chosen from the group including the sequences SEQ ID NOS: 1 to 15, their complementary sequences, and their equivalent sequences, in particular the nucleotide sequences exhibiting, for any sequence of 100 contiguous monomers, at least 70% and preferably at least 90% homology with respectively said sequences SEQ ID NOS: 1 to 15.

2. Nucleic material of the retroviral genomic type, in isolated or purified state, at least partially functional or nonfunctional, whose genome comprises a reference nucleotide sequence, encoding any polypeptide exhibiting, for any contiguous sequence of at least 30 amino acids, at least 80%, and preferably at least 90% homology with a peptide sequence capable of being encoded by at least a functional part of the reference nucleotide sequence according to claim 1.

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3. Nucleic material of the retroviral genomic type according to <sup>Claim 1,</sup> ~~either of claims 1 and 2,~~ comprising a nucleic fragment inserted between two sequences corresponding respectively to the LTR region and to the gag gene for the retroviral genomic structure, in particular a nucleic fragment consisting of or comprising the sequence SEQ ID NO: 12.

4. Nucleic material of the subgenomic retroviral type, consisting of a nucleotide sequence identical to SEQ ID NO: 11, with at least one deletion, such as a sequence chosen from SEQ ID NOS: 7 to 9.

5. Nucleic material according to <sup>Claim 1,</sup> ~~either of~~ ~~claims 1 and 4,~~ comprising at least one functional nucleotide sequence encoding at least one retroviral protein.

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cons a 6. Nucleic material according to ~~either of~~  
claims 1 and 4, comprising at least one regulatory  
nucleotide sequence.

Sub BB 5 7. Nucleotide fragment of at least 100 bases,  
comprising a nucleotide sequence chosen from the group  
comprising:

a a) all the nucleotide sequences, partial and  
complete, of a nucleic material according to ~~any one of~~  
~~claims 1 to 6~~ <sup>claim 1</sup>  
10 a b) all the nucleotide sequences, partial and  
complete, of a clone chosen from the group including  
the clones:

15 - cl.6A2 (SEQ ID NO: 1)  
- cl.6A1 (SEQ ID NO: 2)  
- cl.7A16 (SEQ ID NO: 3)  
- cl.Pi22 (SEQ ID NO: 4)  
- cl.24.4 (SEQ ID NO: 5)  
- cl.C4C5 (SEQ ID NO: 6)  
- cl.PH74 (SEQ ID NO: 7)  
20 - cl.PH7 (SEQ ID NO: 8)  
- cl.Pi5T (SEQ ID NO: 9)  
- cl.44.4 (SEQ ID NO: 10)  
- HERV-W (SEQ ID NO: 11)  
- cl.6A5 (SEQ ID NO: 12)  
25 - cl.7A20 (SEQ ID NO: 13)  
- cl.7A21 (SEQ ID NO: 14)  
- LTR (SEQ ID NO: 15)

c) the sequences which are respectively com-  
plementary to the sequences according to a) and b)

30 d) the sequences which are respectively  
equivalent to the sequences according to a) to c), in  
particular the nucleotide sequences exhibiting, for any  
sequence of 100 contiguous monomers, at least 50%, and  
preferably at least 70%, for example at least 90%  
35 homology with the sequences a) to c).

8. Nucleic probe for the detection of a nucleic  
material, inserted or otherwise into a nucleic acid,  
characterized in that it is capable of hybridizing

*a* specifically with a nucleic material, <sup>Claim 1</sup> ~~according to any~~  
~~a one of claims 1 to 6, or a nucleic fragment according~~  
~~to claim 7.~~

*a* 9. Probe according to claim 8, characterized in  
 5 that it comprises a marker.

*a* 10. Nucleic primer for the amplification by  
 polymerization of an RNA or of a DNA, characterized in  
 that it comprises a nucleotide sequence capable of  
 hybridizing specifically with a nucleic material  
 according to <sup>Claim 1</sup> ~~any one of claims 1 to 6, or a nucleic~~  
~~fragment according to claim 7.~~

11. Nucleic probe or nucleic primer, characterized  
 in that it consists of a nucleotide sequence chosen  
 from the group including SEQ ID NOS: 16 to 28.

15 12. RNA or DNA, and in particular replication  
 vector, comprising a nucleotide fragment according to  
 claim 7.

20 13. Peptide encoded by any open reading frame  
 belonging to a nucleotide fragment, according to  
 claim 7, in particular polypeptide, for example  
 oligopeptide forming an antigenic determinant  
 recognized by sera from patients affected by an  
 autoimmune disease, or a pathology which is associated  
 with it, or from patients having a pathological  
 25 pregnancy or an unsuccessful pregnancy.

14. Peptide according to claim 13, characterized in  
 that it is encoded by a nucleotide fragment comprising  
 an open reading frame encoding one or more retroviral  
 ENV proteins.

30 *a* 15 Use of a nucleic material according to <sup>Claim 15</sup> ~~claims 1~~  
~~a to 6, or of a nucleotide fragment according to claim 7,~~  
~~a or of a peptide according to claim 13 or 14, as~~  
 molecular marker for an autoimmune disease or for a  
 pathology which is associated with it, or for a  
 35 pathological pregnancy <sup>B</sup> or for an unsuccessful  
 pregnancy.

*a* 16. Use of a nucleic material according to <sup>Claim 1</sup> ~~claims 1~~  
~~a to 6, or of a nucleotide fragment according to claim 7,~~

as chromosomal marker for susceptibility to an autoimmune disease or for a pathology which is associated with it, or for a risk of a pathological pregnancy or of an unsuccessful pregnancy.

- 5a 17. Use of a nucleic material according to <sup>Claim 1,</sup> ~~claims 1 to 6,~~ or of a nucleotide fragment according to ~~claim 7,~~  
 a as proximity marker for a gene for susceptibility to an autoimmune disease or <sup>B</sup> to a pathology which is associated with it, or to a risk of a pathological pregnancy or of an unsuccessful pregnancy.

- 10 18. Method for the molecular labeling of an autoimmune disease or of a pathology which is associated with it, of a pathological pregnancy or of an unsuccessful pregnancy, characterized in that any  
 15 nucleotide fragment according to claim 7, either in RNA form or in DNA form, is identified and/or quantified in any biological body material, in particular body fluid.

19. Method according to claim 18, characterized in that cells expressing the nucleotide fragment according  
 20 to the claim are detected in said biological body material.

20. Diagnostic or therapeutic composition comprising a nucleic material according to <sup>Claim 1</sup> ~~claims 1 to 6,~~  
 a or a nucleotide fragment according to <sup>1</sup> ~~claim 7, or a~~  
 25 ~~peptide according to claim 13 or 14.~~

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